Claims

1. An age-resistant, in particular halogen-free, polyolefin wrapping foil, characterized in that the wrapping foil contains at least 4 phr of a primary antioxidant or at least 0.3 phr of a combination of primary and secondary antioxidants, it being possible for the primary and secondary antioxidant function to be present in different molecules or to be united in one molecule.

2. The wrapping foil of claim 1, characterized in that the amount of secondary antioxidant is at least 0.5 phr, preferably at least 1 phr.

3. The wrapping foil of claim 1 or 2, characterized in that the wrapping foil comprises a combination of sterically hindered phenols having a molecular weight of more than 500 g/mol (preferably > 700 g/mol) with a phosphitic secondary antioxidant (preferably having a molecular weight > 600 g/mol).

4. The wrapping foil of at least one of claims 1 to 3, characterized in that the wrapping foil comprises a combination of a low-volatility primary phenolic antioxidant and in each case a secondary antioxidant from the classes of the sulfur compounds (preferably having a molecular weight of more than 400 g/mol, in particular > 500 g/mol) and the phosphites, it being possible for the phenolic, the sulfur-containing, and the phosphitic functions to be united in any desired number in one molecule.

5. The wrapping foil of at least one of the preceding claims, characterized in that the wrapping foil comprises
   a combination of CAS 6683-19-8, CAS 31570-04-4, and at least one thiopropionic ester,
   two or more thiopropionic esters and/or
   at least one metal deactivator.

6. The wrapping foil of at least one of the preceding claims, characterized in that it comprises not only the polypropylene copolymer but also ethylene-propylene copolymers from the classes of the EPM and EPDM.

7. The wrapping foil of at least one of the preceding claims, characterized in that the wrapping foil has a thermal stability of at least 105°C, preferably 125°C, after 2000

and in particular after 3000 hours,
the wrapping foil has a breaking elongation of at least 100% after 20 days' storage at 136°C,
the wrapping foil has a compatibility, on storage on a cable with polyolefin insulation, of at least 105°C after 3000 hours,
the wrapping foil has a compatibility, on storage on a cable with polyolefin insulation, of 125°C after 2000 hours, preferably after 3000 hours, or of 140°C after 168 hours, and/or
attains a heat resistance of 170°C (30 min).

8. The wrapping foil of at least one of the preceding claims, characterized in that the wrapping foil has on one or both sides, especially one side, a layer of adhesive, which is preferably based on polyisoprene, ethylene-vinyl acetate copolymer and/or polyacrylate, and if desired has a primer layer between foil and adhesive layer,
the amount of the adhesive layer being in each case 10 to 40 g/m^2, preferably 18 to 28 g/m^2,
the bond strength to steel being 1.5 to 3 N/cm,
the unwind force being 1.2 to 6.0 N/cm at 300 mm/min unwind speed, preferably 1.6 to 4.0 N/cm, more preferably 1.8 to 2.5 N/cm, and/or
the holding power being more than 150 min.

9. The wrapping foil of at least one of the preceding claims, characterized in that the wrapping foil comprises a solvent-free pressure-sensitive adhesive which is produced by coextrusion, melt coating or dispersion coating, preferably a pressure-sensitive dispersion adhesive and in particular one based on polyacrylate, this adhesive being joined to the surface of the carrier film by means of flame or corona pretreatment or of an adhesion promoter layer which is applied by coextrusion or coating.

10. The wrapping foil of at least one of the preceding claims, characterized in that the wrapping foil comprises at least one polyolefin
having a flexural modulus of less than 900 MPa, preferably of 500 or less, and more preferably of 80 MPa or less, and/or
a crystallite melting point of between 120°C and 166°C, preferably below 148°C, more preferably below 145°C.

11. The wrapping foil of at least one of the preceding claims, characterized in that a flame-retardant filler is added at 70 to 200 phr, preferably at 110 to 150 phr, in particular a magnesium hydroxide.

12. The wrapping foil of at least one of the preceding claims, characterized in that the fraction of carbon black is at least 5 phr, preferably at least 10 phr, the carbon black preferably having a pH of 6 to 8.

13. The wrapping foil of one of the preceding claims, characterized in that the wrapping foil comprises an oxygen-containing polymer in a blend with the polypropylene copolymer, so that the fraction of oxygen is between 0.7 and 10 phr, preferably 5 to 8 phr, an oxygen-containing polymer in at least one coextrusion layer besides a layer of polypropylene copolymer or an ethylene copolymer having a density of 0.86 to 0.92 g/cm³, preferably of 0.86 to 0.88 g/cm³.

14. The wrapping foil of at least one of the preceding claims, characterized in that the wrapping foil is plasticizer-free or the plasticizer content is so low that the fogging number is above 90%.

15. A process for producing a wrapping foil of at least one of the preceding claims, characterized in that
the compounding is performed in a kneader or extruder in such a way that the wrapping foil manufactured from the compound achieves a breakdown voltage of at least 3 kV/100 µm, preferably at least 5 kV/100 µm,
the flame-retardant filler is added not all at once when producing the compound, but instead in at least two portions, and/or
the compound is supplied as a melt without an intermediate stage in solid form to the operation of foil production by extrusion or calendering.

16. A process for producing a wrapping foil of at least one of the preceding claims, characterized in that production takes place by calender processing, in which case the melt index of the polypropylene copolymer is below 5 g/10 min, preferably below 1 g/10 min, and in particular below 0.7 g/10 min,
and/or
extrusion processing, in which case the melt index of the polypropylene copolymer is between 1 and 20 g/10 min, in particular between 5 and 15 g/10 min.

17. A process for producing a wrapping foil of at least one of the preceding claims, in which

- the wrapping foil is wound to logs, which then, to increase the unwind force, are heat-treated and subsequently slit into rolls, the unwind force of the material thus produced at 300 mm/min being higher preferably by at least 50% than without such a measure,
- the wrapping foil, for the purpose of increasing the unwind force, is subjected to a flame or corona treatment or is provided with a polar coextrusion layer and is subsequently processed into rolls, the unwind force of the material thus produced at 300 mm/min being higher preferably by at least 50% than without such a measure,
- the wrapping foil is slit by a process which leads, as a result of rough slit edges, to easier hand tearability, the breaking elongation of the winding-film rolls thus slit being lower preferably by at least 30% than in the case of slitting with sharp blades,
- the wrapping foil is slit by a process which leads, as a result of rough slit edges, to easier hand tearability, the breaking elongation of the wrapping-foil rolls thus slit being preferably in the range from 200 to 500%,
- the wrapping foil is slit on an automatic slitter with defined knife advancement speed, and/or
- the wrapping foil is wound on a core with an inside diameter of 30 to 40 mm, preferably of board.

18. The use of a wrapping foil of at least one of the preceding claims for bundling, protecting, labeling, insulating or sealing ventilation pipes or wires or cables and for sheathing cable harnesses in vehicles or field coils for picture tubes.